VALIDATION OF PIGGERY ODOUR DATA AND MODELS

PIGGERY ODOUR EMISSION RATE VALIDATION STUDY

Project Participants

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Problem

Odour assessment of proposed piggery developments and expansions create challenges for producers when there are disagreements between odour consultants and environmental regulators about odour data, modelling methods and odour impact criteria. While modelling uses the best available modelling practices, the models are largely reliant on data that is now over twenty years old and so may not accurately reflect odour in modern piggeries.

Odour models based on out of date emission rate data can substantially over-or under-predict the potential odour impacts, both of which add unneeded risks to farms with regard to buying more land, or having upset neighbours.

Value for Producers

Accurate odour data and models allow accurate prediction of odour emissions, and as such, provides clarity during the planning and development of new or expanded piggeries. Additionally, ensuring piggeries are planned with correct odour and separation distances will reduce odour-related complaints from neighbours.

Background

Piggeries have the potential to cause odour impacts and as such, odour is an important consideration at all stages of piggery planning, construction, and operation. The Australian pork industry invested heavily in odour research in in the 1990-2000's, with a strong focus on odour emission rates and development of separation distance guidelines.

However, in the last 20 years, industry practices have evolved and there are new aspects of farm design, waste treatment systems – including biogas - and farm management, all of which may affect odour emissions. Additionally, there have been advanced in modelling techniques, and technologies.

Results

The research showed that current odour modelling methods are still valid.

Odour emission rates (OER) from pig sheds had a similar range to those previously reported back in 2003. OER from ponds and separation and evaporation pond systems (SEPS) were highly variable and potentially higher than previously measured, though more work needs to be done to confirm this. OER from compost piles and windrows were low; these areas are not major odour sources.

More Information

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